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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,558	06/25/2003	George Calcev	CML01204M	5465

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MOTOROLA, INC.
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SCHAUMBURG, IL 60196

EXAMINER

SOL, ANTHONY M

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/603,558

Applicant(s)

CALCEV ET AL.

Examiner

Anthony Sol

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation "the first nodes" on line 11. There is insufficient antecedent basis for this limitation in the claim. Does the Applicant mean to state – the first node – or – the first and second nodes --?

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 6-8, 10, 11, 17 and 18 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 6,704,293 B1 ("Larsson").

Regarding claims 6,

Larsson discloses receiving a route-discovery message from a first node (col. 6, lines 18-19, *request for route message is received by a neighbor node*).

Larsson further discloses receiving a route-discovery message from a second node (col. 6, line 28, *a message it has already broadcast*; col. 6, lines 58-59, *If the piggybacked data indicates that the node is the destination node*).

Larsson still further discloses determining route information based on the route-discovery messages (col. 6, lines 58-61, *the node will piggyback a reply message in the route response message*).

Larsson still further discloses transmitting the route information to the first node (col. 6, lines 62-63, *the node will send the route response to the next node*; col. 7, lines 1-5, *If the node is the source node...the node activates the route*).

5. Regarding claims 7 and 11,

Larsson discloses that the IP protocol layer assumes that there is a shared network, i.e., a broadcast network (col. 7, lines 26-29).

6. Regarding claim 8,

Larsson discloses a Bluetooth scatternet (col. 7, lines 16-17).

7. Regarding claims 10 and 18,

Larsson discloses receiving a message from a first node in an underlay communication system, the message indicating a need to discover a route to a second node (col. 6, lines 18-19, *request for route message is received by a neighbor node*; col. 7, lines 16-17, *a Bluetooth scatternet*).

Larsson further discloses broadcasting a message to nodes within the underlay communication system, the message instructing the nodes to monitor for flood messages from the first and the second nodes (col. 6, *the request for route message is received by a neighbor node...Each node has a broadcast buffer which stores the source address and broadcast identifier pair. The broadcast buffer also stores the time which the message has been received to determine if the node has processed the broadcast message within a predetermined time. As one skilled in the art will recognize the predetermined time period is set long enough that the node will not rebroadcast a message it has already broadcast*).

Larsson still further discloses receiving a message from a third node in an underlay communication system, the message comprising route information (col. 7, lines 1-2; *the node sends the route response message to the next node*).

Larsson still further discloses transmitting the route information to the first node (col. 7, lines 2-5, *If the node is the source node...the node activates the route*).

8. Regarding claim 17,

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Larsson discloses means for receiving a route-discovery message from a first node (col. 6, lines 18-19, *request for route message is received by a neighbor node*).

Larsson further discloses means for receiving a route-discovery message from a second node (col. 7, lines 1-2; *the node sends the route response message to the next node*).

Larsson still further discloses means for determining route information based on the route-discovery messages (col. 6, lines 58-61, *the node will piggyback a reply message in the route response message*).

Larsson still further discloses means for transmitting the route information to the first and the second nodes (col. 6, lines 62-63, *the node will send the route response to the next node*; col. 7, lines 1-5, *If the node is the source node...the node activates the route*).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, 9, 12-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,704,293 B1 ("Larsson") in view of U.S. Patent No. 6,304,556 B1 ("Haas").

Regarding claims 1, 4, 15 and 16,

Larsson discloses determining that a first node needs to communicate with a second node (col. 5, lines 42-44, *broadcast messages for which a source node expects a reply message can also be used to support route discovery*; col. 6, lines 58-63, *If the piggy backed data indicates that the node is the destination node... the node will piggyback a reply message*).

Larson further discloses sending, by the first node, a message to an overlay communication system notifying the overlay communication system of the need to communicate with the second node (col. 7, lines 26-29, *Since the IP protocol layer assumes that there is a shared network, i.e., a broadcast network*).

Larsson still further discloses broadcasting the route discovery message (col. 5, lines 42-44, *broadcast messages for which a source node expects a reply message can also be used to support route discovery*).

Larsson still further discloses receiving route information (col. 7, lines 2-5, *If the node is the source node, in accordance with the "Yes" path out of decision step 665, the node activates the route in accordance with step 680*).

Larsson does not disclose receiving, from the overlay communication system, instructions to broadcast a route-discovery message.

Haas discloses a cellular communication system (claimed overlay communication system) where the reactive procedure during the route discovery is limited to sending of route location queries to those nodes that are located on the

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periphery of routing zone (claimed receiving instructions to broadcast a route-discovery message)(col. 5, lines 19-22).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the route-discovery method of Larsson so that a limited global search is initiated as taught by Haas. One skilled in the art would have been motivated to make the combination so that a limited cost of global search is realized (Haas, col. 3, lines 53-56).

11. Regarding claims 2, 5, 9 and 12,

Larsson does not disclose sending the message to a cellular communication system.

Haas discloses sending a paging message in a cellular system (col. 4, lines 15-36).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the route-discovery method of Larsson to be used in a cellular network as taught by Haas. One skilled in the art would have been motivated to make the combination since IP protocol layer assumes that there is a shared network (Larsson, col. 7, lines 26-27).

12. Regarding claims 3 and 13,

Larsson discloses Bluetooth units that can implement IP (col. 7, lines 21-22).

Larsson further discloses that if the node is not the destination node, the node replaces its address in the request for route message (col. 6, lines 45-50).

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson in view of U.S. Patent No. 6,810,428 B1 ("Larsen").

Regarding claims 14,

Larsson does not disclose transmitting a flood stop message causing nodes within the underlay communication system to cease transmission of flood messages.

Larsen discloses an ETE (end-to-end acknowledgement) message to stop the flooding message (col. 14, lines 47-62).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the route-discovery method of Larsson to use an ETE message as taught by Larsen. One skilled in the art would have been motivated to make the combination since the Chaser message reached the destination (Larsen, col. 14, lines 47-51).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Zhen (US2003/0202477A1) teaches Bluetooth on-demand routing and network formation and Bluetooth group ad hoc network.
- Stine (US2003/0033394A1) teaches access and routing protocol for ad hoc network using synchronous collision resolution and node state dissemination.
- Cain (US2004/0029553A1) teaches multiple path reactive routing in a mobile ad hoc network.
- Batsell (US2002/0145978A1) teaches MRP-based hybrid routing for mobile ad hoc networks.
- Cain (US2003/0204625A1) teaches hierarchical mobile ad-hoc network and methods for performing reactive routing therein using ad-hoc on-demand distance vector routing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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AMS

4/23/2007